



SEPTEMBER 2012 NEWSLETTER

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VIEWPOINT: DOWN THE FINAL STRETCH

Well, I can't believe it but we are in the final stages of pulling together this year's Symposium at the Desert Willow Conference Center in Phoenix September 18th through the 21st! I would like to tip my cap to Ted Lehman and the Symposium Committee – not only have they pulled together some fantastic workshops, talks and field trips, but they have been listening to feedback from past events to create an event that will truly be memorable for the attendees. We also have some exciting events happening during the Symposium including our first Meet and Greet on

Tuesday September 18th from 5:00 to 8:00 at the conference center as well as our Annual Membership meeting on Thursday the 20th (www.azhydrosoc.org/2012Symposium).

Check out our web page for the Meet and Greet. Download the flyer and invite some associates, students and/or folks interested in networking in the water community. We will have some games and giveaways for participation. I know I mentioned this in the past but this event is FREE and it is sure to be a good time you don't want to miss.

The Annual Membership meeting is held at the Symposium every year and it is the only time we can gather the majority of our membership together in one room to discuss the Society and gather suggestions for how we can improve and better serve our membership. This is an opportunity to get involved in what is going on within the Society and meet some of the members from other chapters. It is also a time for you to come and learn more about the Arizona Hydrological Society Foundation and see what they are up to.

Before I forget AHS will be unveiling its new SWAG, wanna know what it is? Well then come on by the Meet and Greet and see for yourself. I am looking forward to seeing many of you at the Symposium.

And saving the best for last... let me take time to thank the Sponsors that have graciously supported the Society because without them this event would be impossible. I would list them all here but as I write this article new sponsors are signing up and I don't want to leave anyone out. I would hope that you would go to our Symposium Web site (www.azhydrosoc.org/2012Symposium) and check out all great companies that have stepped up and supported AHS. Thank you Sponsors!!

[Mike Hulst](#)

AHS Corporate Board President

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GOVERNMENT GOINGS-ON

The Arizona Department of Water Resources is now working on one of the most important documents in water resources. The Fourth Management Plan is being drafted and may be adopted in 2013. Management plans were a core feature of the 1980 Groundwater Management Act, with the goal of "safe yield" for the five Active Management Areas by 2025. ADWR is approaching the Fourth Management Plan one AMA at a time. Rural Arizona—pretty much everything outside the AMAs—is on its own.

ADWR staff has announced that there won't be much change from the Third Management Plan. Yet shouldn't there be? Safe yield by 2025 is looking ever more elusive for some AMAs, and the Fourth Management Plan could be one tool to prod water users towards that goal. Way above the level of substantive policy statements, yet not quite as formal as the Arizona Administrative Code, the Plan still carries the regulatory weight of rule. Provisions in the Plan have to be obeyed.

Chapters in the Fourth Management Plan will likely address important programs like recharge, assured water supply, and well spacing. This represents an opportunity to set priorities for these programs to make them more useful in achieving safe yield. Everyone looks primarily at the water conservation section (which will change), but the other chapters could be revised as well. The only way to affect the course of the Plan is to offer comments and suggestions to ADWR. The truly unfortunate thing is that ADWR has so few staff and is so strapped for time that substantial re-working of chapters will be very difficult.

You will hear considerable discussion of the Fourth Management Plan in the hallways and over

lunches at the AHS Annual Symposium. Networking always involves talking about important issues such as what is going on at ADWR. It's a good reason to attend. See you there.

[Alan Dulaney](#)

City of Peoria

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2012 AHS WATER SYMPOSIUM: CONFLUENCES – 25 YEARS BRINGING WATER, PEOPLE, AND IDEAS TOGETHER

This is it! If you haven't already registered for the 2012 AHS Annual Symposium it's not too late! Registration is only \$285! Click [here](#) to view the program!

(<http://azhydrosoc.org/2012Symposium/docs/ProgramSneakPeek.pdf>)

In addition to the informative technical sessions on Wed. & Thurs., we have four excellent [workshops](#) planned on Tuesday, great plenary programs lined up on both Wednesday & Thursday mornings, and two great [field trips](#) to choose from on Friday.

We've gone to great lengths to make this year's event information packed and affordable. Workshops for symposium attendees are only \$35 each. Check them out on our [website](#) and get yourself registered!

We are very fortunate to have the support of an awesome line-up of sponsors and vendors!

- **Platinum Level Sponsor** - [Freeport McMoRan Copper & Gold](#)
- **Gold Level Sponsor** - [Montgomery & Associates](#), [USGS](#), [Southwest Exploration Services](#), [Clear Creek Associates](#)
- **Silver Level Sponsor** – [Schlumberger](#), [Salt River Project](#)
- Awards lunch sponsor – Central Arizona Project
- Break Sponsors – ACS, Atwell, Zonge International
- **Premium Exhibitors** - Golder Associates, US Bureau of Reclamation, Yellowjacket Drilling, & Zonge International
- Exhibitors - Accutest Laboratories, Aquatic Informatics, Bill Johnson Equipment Company, Boart Longyear, GES, Hydrogeophysics, Intermountain Environmental, Orange Coast, TAM International, & the UA Water Sustainability Program.

Please join these groups in support and participation in this year's Symposium. More information on sponsorship benefits & options are available on our website at <http://azhydrosoc.org/2012Symposium/sponsors.html>. Or give our Fundraising Chair & Society President, Mike Hulst, a call at 602-248-7702 ext, 318, or drop him an email at mhulst@eecphx.com. Thank you!

AHS Meet and Greet - At the beginning of this year's conference, AHS would like to invite you to attend a free networking opportunity (Symposium registration not required). Mingle with industry professionals and students from **5 - 8 PM Tuesday September, 18**, at the Desert Willow Conference center. View flyer for details.

Please RSVP to csipos@eecphx.com by 9/13/2012.

Student Registration Sponsors – This year we have started a new program to provide Symposium registration scholarships to students. The idea is to bring in more student participation to the Symposium, and make it easier for deserving students to attend. Student sponsorship donations are to the AHS Foundation and qualify as tax deductible charitable donations. If you are a student and wish to find out more about this opportunity, please contact

David Sampson who is heading up the student recruitment.

Teacher's Workshop Sponsors – Attention to all you good people who pledged for the 2012 AHS Symposium Teachers Workshop: We have met our goal thanks to you and additional generous support from SRP, so please send a check in the amount of your pledge to: The AHS Foundation, PO Box 65690, Tucson, AZ 85728 with “Teachers Workshop” in the comment line of your check.

Please contact Jeff Trembly at 602-686-0753 if you need any additional information. Remember this is a tax deductible donation! Winners of the drawing for a \$150 gift certificate to the restaurant of your choice and the two coffee mugs will be announced at the Thursday lunch. You need not be present to win.

So please send in those checks!

Silent Auction/Raffle Items – We need your donations! We're looking for items to include in our silent auction/raffles during the Symposium. So far we have a number of interesting items from irrigation controllers, to fossils, to historic maps and signed books. If you have some items you'd like to donate, please contact Vicki Mills, at vmills@asu.edu or Ted Lehman, at ted@jefuller.com or 480-222-5709. Donations go to the AHS Foundation and as such qualify as charitable tax deductions. All proceeds from the raffles/auctions will go to the AHS Foundation. We have a great bundle of goodies so far, but we need more! Give generously!



We're looking forward to your participation in this year's Symposium!

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PHOENIX CHAPTER NEWS

Phoenix Chapter's Dinner Meetings will resume October 9, 2012

The Phoenix is observing our summer hiatus and focusing our energy of the 2012 AHS Water Symposium in September. The Symposium Planning Committee's is now meeting every Thursday until the symposium. Our next meeting is September 6, 5 PM, at the [Boulders in Tempe](#).

Future Event Calendar (see also calendar on www.azhydrosoc.org)

Ø **August and September 2012:** Our summer hiatus!

Ø **September 18-21, 2012:** The annual AHS Water Symposium hosted by the Phoenix Chapter at the Desert Willow Conference Center, 4340 East Cotton Center Boulevard Phoenix, AZ 85040.

Ø **October and beyond** – maybe you or a colleague? Please contact [Tom Walker](#), Phoenix Chapter Vice President, if you would like to give us a presentation or if you know anyone else who could use an audience.

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TUCSON CHAPTER NEWS

The regular Tucson Chapter Meetings will resume **October 9, 2012**. We have tentatively scheduled Alan Forrest, Tucson Water's new Director, to speak at the October meeting. We also plan to host a discussion about the mission and operations of the AHS Foundation.

In the mean time, please join us at the symposium in Phoenix for the annual **AHS Water Symposium, September 18-21**, at the Desert Willow Conference Center, 4340 East Cotton Center Boulevard.

WRRC BROWN BAG SEMINARS – SEPTEMBER 2012



Wednesday, September 5

Time: 12:00 - 1:30 pm

Speaker: Jennifer McCloskey, Area Manager, Bureau of Reclamation's Yuma Area Office

Title: Managing the Colorado River: A Balancing Act

Jennifer McCloskey, Area Manager for the Bureau of Reclamation's Yuma Area Office will discuss the challenges she faces in balancing competing interests along the lower Colorado River. She will present information about Reclamation's role in delivering millions of acre-feet of water primarily for agriculture use in Arizona, California and Mexico and the balancing act that occurs between international, agriculture, environmental, recreational and municipal users of Colorado River water. In response to municipal demand and drought conditions, the Yuma Desalting Plant was recently operated and information from that operation will be shared.

For more information visit www.usbr.gov/lc/yuma

Tuesday, September 25

Time: 12:00 - 1:30 pm

Speaker: Peter Dillon, Stream Leader, Sustainable Water Solutions Urban Water Theme, Water for a Healthy Country Flagship Program, CSIRO Land and Water, Glen Osmond, SA, Australia

Title: Governance measures to effectively manage groundwater storage

One of a series of thematic papers on Groundwater Governance initiated by GEF-FAO Facility is an international review and synthesis of governance measures for groundwater storage, recharge and discharge. It was found that depleting systems invariably had not adopted effective

means of allocating the sustainable extraction. In those cases where there are no viable alternative supplies the only realistic options are to slow the rate of depletion and develop transitional plans for resource exhaustion. However, many excellent examples of good management were found where depletion has been reversed through effective policies that cap extraction equitably, allow trading where it is beneficial or benign, provide alternative water supplies and/or provide for managed aquifer recharge. This talk focuses mainly on the positive prototype groundwater management systems and the lessons they reveal and a policy framework synthesis.

Examples (Australian MAR guidelines, policies, economics) :

1. NRMCC, EPHC, NHMRC (2009). Australian Guidelines for Water Recycling, Managing Health and Environmental Risks, Volume 2C - Managed Aquifer Recharge. Jul 2009, 237p. <http://www.ephc.gov.au/taxonomy/term/39>
2. Ward, J. and Dillon, P. (2011). Robust policy design for managed aquifer recharge. National Water Commission Waterlines Report Series No 38, January 2011, 28p. <http://www.nwc.gov.au/publications/waterlines/robust-policy-design-for-managed-aquifer-recharge>
3. Parsons, S., Dillon, P., Irvine, E., Holland, G. and Kaufman, C. (2012). Progress in Managed Aquifer Recharge in Australia. National Water Commission Waterlines Report No 73, March 2012, SKM & CSIRO, 107p. <http://www.nwc.gov.au/publications/waterlines/73>

The views, opinions, advice or other content expressed by the author(s) or speaker(s) are their own and do not represent those of the Water Resources Research Center.

Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting (Jane Cripps at 621-2526). Requests should be made as early as possible to allow time to arrange the accommodation.

wrrc.arizona.edu

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FLAGSTAFF CHAPTER NEWS

The Flagstaff Chapter will not have a September meeting because of the 2012 AHS Annual Symposium to be held in Phoenix in September. We will meet again in October, tentatively set for 1800-2000 MST on Wednesday 17-October-2012 at Peabody Energy. Please note that the date and location are subject to change.

Flagstaff members John Cochran, Paul Whitefield, and Erin Young are working to put together an electronic list of potential speakers willing to give a talk during our monthly meetings or during the Northern Arizona University School of Earth Sciences and Environmental Sustainability (SESES) Seminar Series. Anyone interested in giving a talk (even if they are not in the Flagstaff Chapter) should contact John Cochran (Secretary).

In case you missed it, the National Academies Press (<http://www.nap.edu/>) is making the pre-publication *Challenges and Opportunities in the Hydrologic Sciences* available free in PDF. The book description follows:

“New research opportunities to advance hydrologic sciences promise a better understanding of the role of water in the Earth system that could help improve human welfare and the health of the environment. Reaching this understanding will

require both exploratory research to better understand how the natural environment functions, and problem-driven research, to meet needs such as flood protection, supply of drinking water, irrigation, and water pollution. Collaboration among hydrologists, engineers, and scientists in other disciplines will be central to meeting the interdisciplinary research challenges outline in this report. New technological capabilities in remote sensing, chemical analysis, computation, and hydrologic modeling will help scientists leverage new research opportunities.”

As I said, the book is free but you will need to register (free also) with the National Academies Press (NAP). Also, please remember that NAP offers more than 4,000 titles in PDF. All of these PDFs can be downloaded for free by the chapter or the entire book. NAP is an excellent source of books written by various committees of the National Research Council.

[Mike Tomlinson](#)

Flagstaff Chapter President

City of Flagstaff Seeking Professionals to Assist with Project WET Event September 26!

The City of Flagstaff is looking for volunteers to help with the Water Festival that the City of Flagstaff and Flagstaff Unified School District are sponsoring together along with a donation from SCA Tissue. This event will be on Sept. 26, 2012, from 9 – 2 pm. About 90 volunteers are needed to help set up the equipment (starting the setup possibly the day before on Sept. 25th and then take it down starting around 2 pm on Sept. 26) and another 15 presenters to teach or assist the teachers with the 4th grade activities about water conservation, hydrology, the water cycle and groundwater. Kerry Schwartz with Project Wet will be in Flagstaff on Sept. 6 from 11 am – 1 pm at Foxglenn Park to provide training for the presenters (short amount of time for training). Please contact Robin Harrington, the Utilities Program Manager, at (928) 213-2116 or RHarrington@flagstaffaz.gov if you are interested in participating.

City of Flagstaff Utilities Division Updates

Utilities expects to offset 21% of energy use at the Wildcat Hill wastewater treatment plant with the recent installation of solar panels saving our customers money into the future. Additionally, the Utilities Division obtained a \$35,000 grant to conduct an energy efficiency audit for our drinking water system. Earlier this year, a similar energy efficiency study was completed for the wastewater treatment plants. With these audits the City will be able to target what pieces of equipment to replace that will reduce energy consumption and save money for our customers.

The Inner Basin water supply is scheduled to be back online in the Spring 2013. The Waterline Road and pipeline were washed out in 28 locations after the Schultz Fire in 2010. The City and its contractors have been working hard to get this critical water supply back online for our customers. Not only is this water supply historically the City's oldest (1890s), it provides 2 million gallons per day of the purest and cheapest water available during the hot summer months. Lastly, using voter-approved funds for street and utility improvements, the Utilities Division has increased the replacement of aging sewer and water pipelines which are prone to failure. Maintaining the City's underground network of sewer and water pipelines before they degrade is imperative to keeping the delivery system healthy, free of leaks and providing our customers with



uninterrupted service.

SNAILS AND HAYSTACKS

And here's an update from the field, from the Flagstaff Chapter Charles C. Avery Intern Scholarship winner!



One of the experiences I was lucky enough to

have this summer as part of receiving the Flagstaff Chapter Charles C. Avery Intern Scholarship from the Arizona Hydrological Society was aiding with field sampling of the endangered Kanab Ambersnail in Vasey's Paradise in the Grand Canyon. The Kanab Ambersnail is known to inhabit only two places, Vasey's Paradise, Grand Canyon and Three Lakes meadow outside of Kanab, Utah. I was able to participate in an ongoing monitoring project with AZ Game and Fish Department by doing timed searches in designated plots within the spring-supported habitat. Searching for Kanab Ambersnails, which are less than an inch in length, involves crawling around in dense vegetation with your face a few inches above the ground combing through an immense amount of spiders, bugs, and creatures I had no idea existed before. I was able to find five adult snails and one juvenile snail in my three separate timed searches, which was a great accomplishment in my view because the searches felt equivocal to finding a needle in a haystack. I have learned so much about the Kanab Ambersnail, the politics of endangered species, the role of science as it informs those policies, as well as field ecology methods. I have also learned that combining science and adventuring in the Grand Canyon is my most favorite thing to do. I am extremely grateful for this experience.

Thank you,

Mariah Giardina

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HYDRO-NEWS

DOUBLE CIRCLE RANCH EROSION CONTROL WORKSHOP

Help us improve our watershed and aquatic habitat, and learn about erosion and sedimentation control and revegetation methods at these FREE hands-on three day workshops led by Craig Sponholtz, owner of [Dryland Solutions, Inc.](#) We will learn to design, site and install rock check dams, media lunas, splash aprons, zuni bowls and armoring. Click here for

full flyer.

Erosion Control Workshop #7: October 12-14, 2012



Excess sediment is a major problem in the creeks and washes in our area, affecting water quality and potential habitat for aquatic and riparian species including loach minnow, spike dace and Chiracahua Leopard frog. By catching silt and stopping or slowing soil loss, we can help alleviate the problem and improve the integrity of our creeks and rivers.

The [Double Circle Ranch](#)'s public involvement and education programs are both fun and informational. You will work alongside us as we improve our watershed, and at the end of the weekend you will have new friendships as well as new skills and knowledge of erosion issues that you can easily implement around your own home and property.

Meals will be provided. Bring work gloves; all other supplies will be provided. Bring your tent and camp out for free, or if you prefer a bunk, you may reserve one of our outfitter tents for \$60/night. (Maximum of four people to a tent.)

Limit of 30 participants. Free.

[Contact us](#) to let us know how many people you'll be bringing, and we'll put you on the list!

Sponsored by the [Arizona Water Protection Fund \(AWPF\)](#).

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WATER USE BY SINGLE-FAMILY RESIDENCES IN THE TUCSON WATER SERVICE AREA IN 2009 & 2010

Residential water use study by Akitsu Kimoto, Evan Canfield, and Tom Arnold from Tucson Water as baseline information for demand management for the City/County Water Study has been released. The study looked at water use for 70,000 residences in the Tucson Water service area using monthly water use data from 2009 & 2010, as well as data on the parcels from the Pima County Assessor's office and occupancy from the 2010 census.

<http://tucsonpimawaterstudy.com/>

[Click here](#) for full report.

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COURT: DAM NOT SUBJECT TO ANNUAL REVIEWS

by **Howard Fischer** - Aug. 23, 2012 07:10 AM
Capitol Media Services

A federal appeals court has rejected a bid by the Grand Canyon Trust to force annual environmental assessments on how operation of the Glen Canyon Dam by the Bureau of Reclamation affects an endangered fish that lives downstream.

In a unanimous decision, the three-judge panel said nothing in federal environmental law requires such an intense review. Judge Ronald Gould also said it would be impractical, as each review would result in a new legal challenge.

The ruling is most immediately a victory for the utilities that depend on the dam for power and the communities that get Colorado River water.

Neil Levine, an attorney for the trust, said the ruling is not a complete loss. He said the appellate court, in its unanimous ruling, threw out a trial judge's order that dismissed one part of the organization's challenge to the assessments of what the current dam operating scheme means not only to the humpback chub but

other downstream uses, including camping. Levine said that gives the trust another chance to force major changes to when and how water is released.

Read more: <http://www.azcentral.com/business/abg/articles/2012/08/23/20120823court-dam-not-subject-annual-reviews.html#ixzz25N3rjgdo>

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SAN TAN VALLEY WATER SCARE HAS COMMUNITY ON EDGE

by **Lindsey Collom** - Aug. 22, 2012 10:04 PM
The Republic | azcentral.com

Concerns about E. coli contamination in the water supply have shuttered at least a dozen businesses and created high demand for bottled water in the San Tan Valley area, a bedroom community in the southeast part of the metropolitan Phoenix area.

Johnson Utilities issued a statement on its website Wednesday urging its estimated 20,000 customers to use boiled or bottled water until further notice for drinking, making ice, brushing teeth, washing dishes and preparing food.

E. coli, a bacterium derived from human and animal feces, can cause nausea, vomiting, stomach cramps and diarrhea and is a particular concern for people with weakened immune systems.

"The safety of our customers is our first concern," Greg Brown, vice president of operations, was quoted as saying in Wednesday's statement. "Our families live in our service area and consume the same water as our other valued customers. We will take whatever measures are necessary to assure Johnson Utilities' water is safe and that we have complied with federal and state law."

The bacteria was detected during routine testing last week, but the utility said subsequent samples were absent the contaminant. Lab results from the latest sampling are expected today.

Read more: <http://www.azcentral.com/community/gilbert/articles/2012/08/21/20120821san-tan-valley-customers-warned-boil-water-e-coli.html?odyssey=topicpage#ixzz25Qq3X5wh>

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GILBERT DISCOVERS FLUORIDE WITHHELD FROM WATER, PUTS 2 OFFICIALS ON LEAVE

by **Parker Leavitt** - Aug. 23, 2012 09:58 PM
The Republic | azcentral.com

Gilbert has put two top administrators on leave and launched an internal investigation after officials discovered fluoride has been withheld from part of the town's water supply for at least 13 months.

Town voters approved fluoridation 12 years ago after a heated debate on the controversial issue, and the task of adding the cavity-fighting chemical fell to Public Works Director Lonnie Frost, whose wife, Shelley, had led the opposition against fluoride.

Frost, along with Water Manager Chris Ochs, are now on paid leave while the town investigates how and why fluoride was not being added at Gilbert's North Water Treatment Plant.

Town Manager Patrick Banger could not immediately say whether it was done intentionally or by mistake.

"We just want to make it clear that we're taking it very seriously, but it's not a matter of a public-health hazard in that the water was being overfluoridated," Banger said. "We weren't meeting the minimum levels."

The town has ordered an independent verification of its water system and will look to get the fluoridation system online as soon as possible, said Dana Berchman, Gilbert's communications director.

Read more: <http://www.azcentral.com/community/gilbert/articles/20120823gilbert-discovers-flouride->

PHOENIX KEEPS WATCH ON WATER QUALITY, SUPPLY

by **Lynh Bui** - Aug. 23, 2010 03:41 PM
The Arizona Republic

Making sure residents have clean water on demand is one of the biggest responsibilities of the Phoenix Water Services Department, but water officials are also working on long-term strategic issues to make sure that service will always be there.

Phoenix is watching three issues related to the city's water supply. The city has partnered with other organizations to learn more about climate change's effect on water supplies, salt in water and pharmaceuticals in the wastewater system.

To keep abreast of these complicated issues, the city has paid \$239,767 this year to continue its membership with the Water Research Foundation. The city's membership in the foundation will give Phoenix access to millions of dollars worth of research and reports used to help keep the city's water system safe and up to federal regulatory standards.

Environmental regulations from the federal government are constantly changing, said Ray Quay, assistant director of the city's Water Department. Understanding water issues and staying up to date with research helps the city comply with changes and manage the city's long-term changes with the water system, he said.

Read more: <http://www.azcentral.com/news/articles/2010/08/23/20100823phoenix-water-issues.html#ixzz25QwdJdpP>

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GAS-DRILLING RESEARCH SUFFERS LACK OF FUNDING

Many agree that lawsuits will become more common if questions are not addressed

by **Kevin Begos** - Aug. 1, 2012 11:14 PM
Associated Press

PITTSBURGH - Is gas drilling ruining the air, polluting water and making people sick? The evidence is inconclusive, but a lack of serious funding is delaying efforts to resolve those pressing questions and creating a vacuum that could lead to a crush of lawsuits, some experts say.

A House committee in June turned down an Obama administration request to fund \$4.25 million in research on how drilling may affect water quality. In the spring, Pennsylvania stripped \$2 million of funding that included a statewide health registry to track respiratory problems, skin conditions, stomach ailments and other illnesses potentially related to gas drilling.

"It's almost as if it's a secret, that they don't want to know about people who are affected," said Janet McIntyre, who lives near a drilling area about 30 miles north of Pittsburgh. "There's a lot of people in my neighborhood that have rashes and little red spots."

State officials say the air and water in the community is safe, and doctors haven't confirmed that drilling caused illnesses. But without a full-scale medical review or other research in such cases, the worries remain.

"Right now, the kind of comprehensive research that's needed just hasn't started," said Bernard Goldstein, professor emeritus at the University of Pittsburgh School of Public Health.

The drilling boom has come about because of advances in hydraulic fracturing, or fracking, that have made enormous reserves of gas accessible, leading to more jobs and profits and lower energy costs.

But there are also concerns about pollution.

Read more: <http://www.azcentral.com/news/articles/2012/08/01/20120801gas-drilling-research-suffers-lack-funding.html#ixzz25Qy7PSW0>

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WATER-EDUCATION PROGRAM TEACHES KIDS ABOUT SOURCE OF LIFE

by **Shaun McKinnon** - Apr. 28, 2012 12:02 AM
The Republic | azcentral.com

WICKENBURG - Aaron Levels held a green viewing tray up to his eyes, studying what looked like a tadpole squirming in an inch or so of water.

The possible tadpole had most recently squirmed in the Hassayampa River, which cut a quiet path under a footbridge where a group of sixth-graders panned the shallow water like riparian prospectors searching for aquatic life and, perhaps, higher marks.

"It has a tail ... no shell ... no legs," he said, reciting from a checklist that guided the students through an exercise no classroom could duplicate.

It looks like a leech," another classmate suggested. What they sought was proof for their theory that rivers support the widest range of riparian life, a premise that emerged from a water-education program offered at a growing number of Valley schools.

Tracy Thunem, Aaron's teacher at Ryan Elementary School in Chandler, consulted a laminated chart and eyed the specimen, listening as another student wondered if it might be a midge pupa. Thunem leaned toward the tadpole, but either way, it was better-received than the spiders from the first scoop of sediment.

Read more: <http://www.azcentral.com/arizonarepublic/news/articles/2012/04/30/20120430water-education-program-teaches-kids.html#ixzz25Qz8P11j>

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WATERBLOGGED BY SHAUN MCKINNON, ARIZONA REPUBLIC

[*Study: More growth could heat up AZ*](#)

Monday, August 13, 2012 at 12:59 PM

While we're on [the subject of heat](#):

Steady growth in Arizona's urban areas could push summertime temperatures higher by as much as 4 degrees Celsius, or 7 degrees as measured on Fahrenheit, scientists at **Arizona State University** [concluded](#).

Researchers examined projected growth rates along the so-called **Sun Corridor**, which stretches from **Prescott** south to **Nogales**, and included the projections in models used to calculate the effects of rising temperatures related to climate change. If the urban corridor reaches a population of 9 million by 2050 as some projections suggest, the buildings, roads, parking lots and other components of bigger cities could lead to summertime temperatures of 2 to 4 degrees Celsius higher than they are today, [according to the study](#), released Sunday.

Read more: <http://www.azcentral.com/members/Blog/ShaunMcKinnon/169205>

The heat goes on (updated)

Monday, August 13, 2012 at 12:25 PM

This is how hot it is in **Phoenix**: The temperature hasn't dropped below 90 degrees at the official reporting station, day or night, since Aug. 6, a full week ago.



That's a lousy streak for early August, when mornings can typically start to provide a little bit of relief, especially if there's rain nearby. But once more this morning, the nighttime "cool-down" reversed course when it reached 90 degrees.

Our last sub-90 reading was just before 7 a.m. Aug. 6, after an overnight low of 88. That's seven toasty days with barely a break in the heat, not unheard-of, according to **Ken Waters** at the [National Weather Service](#), but notable all the same.

Read more: <http://www.azcentral.com/members/Blog/ShawnMcKinnon/169204>

For associated links and other timely water and environmental blogs on Shaun McKinnon's Arizona Republic site **Waterblogged** visit <http://www.azcentral.com/members/Blog/ShawnMcKinnon>.

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JOB BOARD

Check these jobs out on the [AHS Jobs web page](#):

- [WATER RESOURCES ADVISOR - City of Mesa - Water Resources](#)
- [Senior Groundwater Modeler/Hydrogeologist - Montgomery & Associates](#)
- [Mid-level Hydrogeologist/Modeler - Montgomery & Associates](#)
- [Senior Water Resources Analyst - CAP](#)
- [Senior Policy Analyst - CAP](#)
- [Hydrologist IV - ADWR](#)

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ADDITIONAL INFORMATION

For more information about the Arizona Hydrological Society, or to view current job listings and announcements, please visit our regularly updated web site at:

<http://www.azhydrosoc.org/>

Membership may be renewed by credit card through the AHS website or by mailing a check to the Arizona Hydrological Society, P.O. Box 1882, Higley, AZ 85236. Dues remain at \$45.00 year for regular membership and \$15.00 for students.

The AHS Newsletter is edited by [Christie O'Day](#), AHS Executive Director. THANK YOU TO OUR MEMBERS FOR SENDING ME INTERESTING CONTENT FOR THE MONTHLY NEWSLETTER!

